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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,872	12/05/2003	Markku Lamberg	915-007.062	8487
4955 7590 01/25/2008 WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN, BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468			EXAMINER KRASNIC, BERNARD	
			ART UNIT 2624	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/729,872	Applicant(s) LAMBERG ET AL.	
	Examiner Bernard Krasnic	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9, 10, 12 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-10, 12 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. The amendment filed 11/09/2007 have been entered and made of record.

2. The Applicant has canceled claim(s) 8, 11, 13-14, and 16.

3. The application has pending claim(s) 1-7, 9-10, 12 and 15.

4. In response to the amendments filed on 11/09/2007:

The "Objections to the abstract" have been entered and therefore the Examiner withdraws the objections to the abstract.

The "Objections to the claims" have been entered and therefore the Examiner withdraws the objections to the claims.

The "Claim rejections under 35 U.S.C. 101" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 101.

The "Claim rejections under 35 U.S.C. 112, second paragraph" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 112, second paragraph. Due to the amendment though, new 35 U.S.C. 112 second paragraph issues have arisen and therefore the Examiner will address the rejections below.

5. The Applicant's arguments with respect to claims 1-7, 9-10, 12 and 15 have been considered but are moot in view of the new ground(s) of rejection because the Applicant has amended independent claim(s) 1, 9, 10, 12, and 15 respectively.

6. Applicant's arguments filed 11/09/2007 have been fully considered but they are not persuasive.

The Applicant alleges, "It has been found that generic ..." in page 7, "Differently from that, the Bechtel ..." in page 7, "Accordingly to Bechtel, a processor may include ..." in pages 7-8, and "The patentability distinct feature lies in calculating an individual tone ..." in page 8, and states respectively that the amended claim language as recited in the independent claims teaches that the brightness information is used for calculating an individual tone rendering curve which fits best for the particular image and adjusting the luminance values of pixels based on this curve whereas the prior art reference Bechtel teaches away from this claim language by teaching that a predetermined mapping function is selected from a set of lookup tables for luminance mapping based on the brightness information. Although the Examiner agrees that one of Bechtel's embodiments teaches selecting from a set of lookups table curves for luminance mapping based on the brightness information of the scene, another embodiment of Bechtel also teaches the amended claim language. Bechtel teaches that the brightness histogram of the scene controls the dynamic selection of the function which controls the luminance mapping by writing and supplying a new curve function based on the analysis of the particular scene [see Bechtel, page 34, lines 12-16, page 5, lines 14-16, page 25, lines 17-23]. Therefore, Bechtel clearly also teaches that the brightness

information / brightness histogram is used for calculating an individual tone rendering curve / writing and supplying a new curve function based on the analysis of a particular scene which fits best for the particular image / particular scene and adjusting the luminance values / luminance mapping of pixels based on this curve. Therefore claims 1-7, 9-10, 12 and 15 are still not in condition for allowance because they are still not patentably distinguishable over the prior art references.

### ***Drawings***

7. The drawings are objected to because the unlabeled rectangular boxes shown in the drawings [Figures 1, 2, and 4] should be provided with descriptive text labels.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2-4, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claim 2, line 2, claim 3, lines 1-2 respectively: The limitation "analysed for determining said tone rendering curve" lacks clear antecedent basis. It is suggested to be -- analysed for calculating said tone rendering curve --.

Re Claim 4, line 2: The limitation "wherein said determined tone rendering curve" lacks clear antecedent basis. It is suggested to be -- wherein said calculated tone rendering curve --.

Re Claim 4, line 2: The limitation "at least two different tone rendering curves" following the claim 1 amendment from "determining a tone rendering curve" to "calculating an individual tone rendering curve" is indefinite because it seems to go against the Applicants arguments [see Applicants Amendment in Response to Office Action dated 11/09/2007, pages 7-8] that the tone rendering curve is an individually calculated curve

where it is not predetermined from a list of curves for future selection from storage.

Therefore the Applicant is suggested to delete this claim to stay consistent with the amendment to claim 1 and to stay consistent with their arguments.

Re Claim 7, lines 2-3: The limitation "wherein said tone rendering curve is also determined based on said ambient light information" lacks clear antecedent basis. It is suggested to be -- wherein said tone rendering curve is also calculated based on said ambient light information --.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-5, 7, 9-10, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Bechtel et al (WO 99/33684, this reference was provided by the Applicant's Information Disclosure Statement, as applied in previous Office Action).

Re Claim 1: Bechtel discloses a method / vehicle vision system for rendering images / scenes on display devices / display systems with improved quality / enhanced image of scene (see page 7, lines 8-9) with the steps of analyzing brightness information /

measures of overall image brightness using a histogram of an image / particular scene (see page 1, lines 6-14, page 2, lines 16-21 and 27-32, page 3, lines 1-3, page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 7, lines 8-9, page 8, lines 10-16, abstract, lines 14-26), calculating an individual tone rendering curve / writing and supplying a new curve function based on the analysis of the particular scene which fits best for the particular image / particular scene based on the brightness information / brightness histogram (see page 34, lines 12-16, page 5, lines 14-16, page 25, lines 17-23), and adjusting luminance values of pixels / luminance mapping within said image according to said calculated tone rendering curve / curve function for particular scene (see page 34, lines 12-16, page 5, lines 14-16, page 25, lines 17-23, the brightness histogram of the scene controls the dynamic selection of the function which controls the luminance mapping by writing and supplying a new curve function based on the analysis of the particular scene).

Re Claim 2 [as best understood by the Examiner]: Bechtel further discloses luminance values of pixels / measures of overall image brightness using a histogram are analysed for determining said tone rendering curve / curve function which controls the pixel luminance mapping (see page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 25, lines 17-23, page 34, lines 12-16, abstract, lines 14-26).

Re Claim 3 [as best understood by the Examiner]: Bechtel further discloses an image histogram / brightness histogram is analysed for determining said tone rendering curve /



curve function which controls the pixel luminance mapping (see page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 25, lines 17-23, page 34, lines 12-16, abstract, lines 14-26).

Re Claim 4 [as best understood by the Examiner]: Bechtel further discloses at least two different tone rendering curves / different function curves are stored / memory, and wherein said determined tone rendering curve is taken from said storage (see page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 25, lines 17-23, page 34, lines 1-16, abstract, lines 14-26).

Re Claim 5: Bechtel further discloses said tone rendering curve / curve function which controls the pixel luminance mapping is customized according to properties of said display device (see page 25, lines 30-34, page 26, lines 1-7, the function which controls the pixel luminance mapping is customized to convert the 11-bit luminance input to an 8-bit luminance output display value because the display could only support 8-bit output).

Re Claim 7 [as best understood by the Examiner]: Bechtel further discloses ambient light information / ambient light signal is acquired, and wherein said tone rendering curve / curve function which controls the pixel luminance mapping control is also determined based on said ambient light information (see page 4, lines 30-31, page 5, lines 1-8, abstract, lines 14-26, page 19, lines 22-32, claim 17, the different

components, image brightness detector, display luminance mapping control and the ambient light sensor basically all affect the control logic which acts as a processor and all these components are depicted as one entire preferred embodiment and therefore all these components are inter-related in function as is seen in Fig. 2).

As to claim 9, the discussions are addressed with respect to claims 1 and 7.

As to claim 10, the claim is the corresponding display device claim to claim 1 respectively. The discussions are addressed with regard to claim 1. In regards to the further limitation "a screen for showing said image", Bechtel further discloses a screen for showing said image to viewers (see page 7, lines 8-9, abstract, lines 14-26).

The limitations as recited in claim 10, "analyzing means" in line 4, "tone rendering curve calculation means" in line 6, and "image adjusting means" in line 10 invoke 35 U.S.C. 112, sixth paragraph.

As to claim 12, the claim is the corresponding display device claim to claim 9 respectively. The discussions are addressed with regard to claim 9. In regards to the further limitation "a screen for showing said image", Bechtel further discloses a screen for showing said image to viewers (see Fig. 2, page 7, lines 8-9, abstract, lines 14-26).

The limitations as recited in claim 12, "analysing means" in line 4, "ambient light acquisition means" in line 6, "tone rendering curve calculation means" in line 7, and "image adjusting means" in line 11 invoke 35 U.S.C. 112, sixth paragraph.

As to claim 15, the claim is the corresponding computer readable medium claim to claim 1 respectively.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bechtel in view of Laihanen ("Graphic Arts in Finland", 1995, this reference was provided by the Applicant's Information Disclosure Statement, as applied in previous Office Action). The teachings of Bechtel have been discussed above.

However, as recited in claim 6, Bechtel fails to disclose or fairly suggest said tone rendering curve is applied to said luminance values of pixels within an HSV or Lsa colour space.

Laihanen discloses said tone rendering curve is applied to said luminance values of pixels within an HSV or Lsa colour space (see page 6, Fig. 6, page 3, abstract, paragraph 3 "A new Lsa ...", pages 6-7, Section – Colour Image Manipulation).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bechtel's method by using Liahanen's teachings by including the ability to apply the tone rendering curve to the luminance values within the HSV or Lsa color space in order to efficiently adjust grey balance, skin tones and saturation and because it is an optimum tool when compared to adjusting in RGB color space (see Laihanen, page 3, abstract, paragraph 3 "A new Lsa ...", page 7, paragraph "None, of the existing colour models ...").

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spekowius et al discloses a display device with improved representation of the shades of grey; Zaklika et al discloses histogram adjustment features for use in imaging technologies; Lee et al discloses automatic tone scale adjustment using image activity measures.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number:  
10/729,872  
Art Unit: 2624

Page 13

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic  
January 17, 2008



JINGGE WU  
SUPERVISORY PATENT EXAMINER